BLI

Lab Test Report

A Comprehensive BLI Laboratory Evaluation | JANUARY 2009

EUROPEAN EDITION

Dell 3130cn Colour Laser Printer

25 PPM Colour • 30 PPM Black Colour Laser Printer

BUYERS LABORATORY 2009 BLI HIGHLY RECOMMENDED LAB TESTED

Reliability	Excellent
Administrative Utilities	Very Good
Feedback to Workstations	Excellent
Ease of Network Setup	Very Good
Print Drivers	Very Good
Applications Compatibility	Excellent
Colour Print Quality	Very Good
Black Print Quality	Very Good
Colour Print Productivity	Very Good
Black Print Productivity	Very Good
Ease of Use	Very Good
Feature Set	Very Good
Security Features	Not Rated
Environmental Features	Not Rated
Toner Yield	Very Good

PERFORMANCE SUMMARY

With rated speeds of 25 ppm for colour and 30 ppm for black, the Dell 3130cn Colour Laser Printer gave an above average performance in its lab evaluation. The A4 desktop colour laser printer, which is simple to set up and use, demonstrated flawless reliability throughout its 35,000-impression durability test. Also noteworthy is that the 3130cn Colour Laser Printer produced very good overall image quality in both colour and black modes via the PCL 6 driver. The company has dramatically improved feedback to workstations from the previous version of Status Monitor Console by providing more detailed information in the utility and improving the types of alerts that users can configure. Additionally, the unit proved to be very productive; it comes with administrative tools to limit colour usage and has tested toner yields for all four colours that not only were highly rated but exceeded their rated yields too. Based on these findings, BLI highly recommends the 3130cn Colour Laser Printer for offices with monthly print volumes of up to 5,000 impressions.

Test duration:
Two months, including a 35,000-impression durability test.

Maximum monthly duty cycle:
Up to 70,000 impressions.

Manufacturer's recommended monthly volume:
2,000 to 5,000 impressions.

BLI's recommended monthly volume for optimum performance:
Up to 5,000 impressions.

More information on the Dell 3130cn Colour Laser Printer is available through bliQ (www.buyerslab.com/bliQ).

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Strengths

- Highly reliable—flawless durability performance
- Bright colour saturation in business graphics; clearly readable text, above average production of line art and halftone range, very good overall coverage within halftone levels and dark solids
- Above average job stream productivity using the Adobe PostScript driver in colour and black modes; faster than average first-print times for all test files; slightly faster than average first-print time out of energy-save mode
- Above average and the highest standard and maximum memory capacities, respectively; above average paper handling ability via the drawers and bypass
- Above average tested toner yields for all four colours; all cartridges exceeded their rated yields; toner-save mode in the drivers
- Embedded Web page includes Dell ColourTrack 2.1 utility, allowing administrators to limit colour usage and set volume thresholds
- The improved Status Monitor Console provides more detailed information in the utility and the types of alerts that users can configure
- Highly automated drivers installation routine

Weaknesses

- Flesh tones exhibited a slightly yellowish hue

PERFORMANCE OVERVIEW

+, — and ○ represent positive, negative and neutral attributes, respectively.

△▽

RELIABILITY

EXCELLENT

+ The 3130cn Colour Laser Printer is certified highly reliable by BLI, completing a 35,000-impression durability test with no misfeeds. Furthermore, it required no service of any kind.

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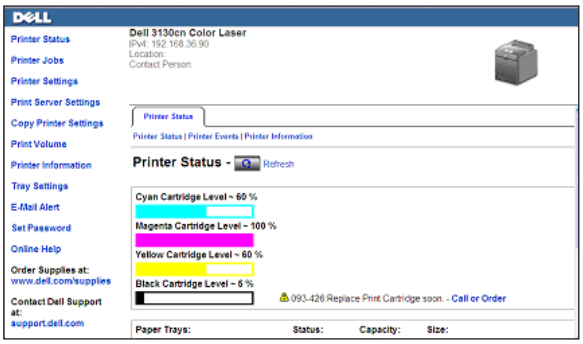
ADMINISTRATIVE UTILITIES

VERY GOOD

○ Dell OpenManage Printer Manager allows administrators to remotely manage multiple Dell and compatible devices on the network via a Web browser. Though the fleet management utility provides great detail about Dell devices, its capabilities in terms of compatibles is more limited than with other competitive tools. OpenManage Printer Manager is available as a download on the company's Web site.

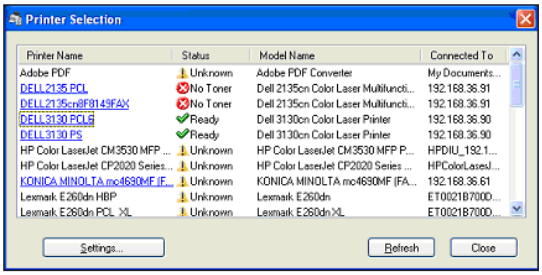
+ The embedded Web page, Dell Web Printer Configuration Tool, lets administrators configure the unit remotely on the network and monitor paper status—"Okay" or "Add Paper"—and remaining toner, as indicated in percent gauges.



Embedded Web Page—Printer Status Tab (U.S. model pictured)

+ Dell ColourTrack 2.1, a colour management system that's included in the embedded Web page, enables administrators to control users or departments by allowing or restricting colour output, setting volume limitations and tracking usage.

+ Status Monitor Console (SMC) is either resident or activated manually, displaying information for devices that have bi-directional support enabled. Administrators and users can proactively check SMC for status, names of print jobs, level of toner supply, guidance for reordering toner when necessary and the user's manual for troubleshooting details.



Status Monitor Console—Device List (U.S. model pictured)

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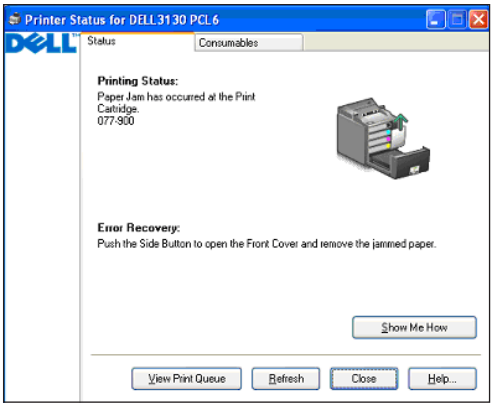
FEEDBACK TO WORKSTATIONS — EXCELLENT

+ SMC is installed simultaneously with the driver and allows for pop-up messages or icon alerts, which notify users of errors and warnings, to be configured. When a job is sent, the utility pops up so that users can see paper status—"Okay" or "Add Paper"—and remaining toner, as indicated in percent gauges. It can also be proactively accessed.



**Status Monitor Console—
Paper Jam Pop-Up Message (U.S. model pictured)**

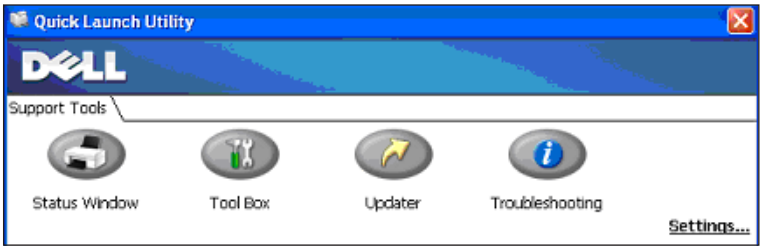
○ Users can enable the pop-ups to appear during printing or disable the functionality altogether.

○ Pop-ups for print job completion aren't available, but this is common among devices in this class.

○ Administrators can set up e-mail alerts so that key operators receive messages when consumables are depleted or an error has occurred.

+ Audible alerts are available and can be configured to beep when a job is complete or an error has occurred, among others.

+ Dell Quick Launch Utility, which is loaded during installation and available on the desktop, includes shortcut keys to access SMC, Dell Tool Box, Updater Utility and a troubleshooting guide.



Quick Launch Utility (U.S. model pictured)

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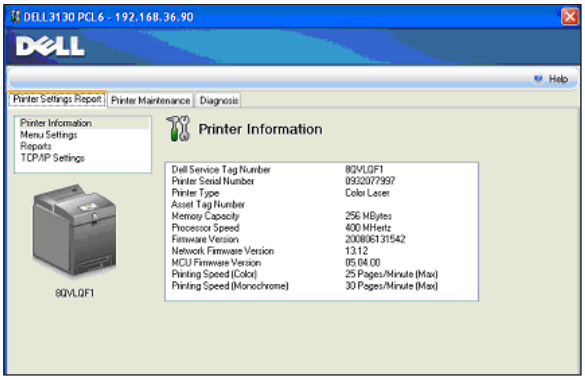
+ Tool Box provides users with access to information such as reports and menu, network and tray settings. Printer Maintenance and Diagnosis tabs are also available. However, when using the Tool Box, users can't open SMC for devices connected to the same port.



Tool Box—Printer Settings Report Tab (U.S. model pictured)

△ EASE OF NETWORK SETUP — VERY GOOD

○ Physical setup is simple as the 3130cn Colour Laser Printer stacks on top of the optional paper drawers, but note that Dell recommends at least two people lift the unit out of the box and place it in the desired location due to size and weight concerns. Users can then remove the packing tape and open the side cover to access the pre-loaded toner cartridges.

+ The CD launches upon insertion in the drive, and the automated installation routine will have users up and running in a matter of minutes. It takes six clicks to simultaneously install the PCL and Adobe PostScript drivers, as well as included software, using the default routine; the port is automatically created, and the IP address is assigned using DHCP. Furthermore, the drivers automatically detect configured accessories.

+ Dell provides a utility whereby administrators can remotely install the drivers on workstations for uniform operation across the organization.

○ The CD contains the drivers, a supplies management system, support tools and Quick Launch Utility, as well as a user's manual in PDF format so that it can be printed.

○ OpenManage Printer Manager must be downloaded from the company's Web site.

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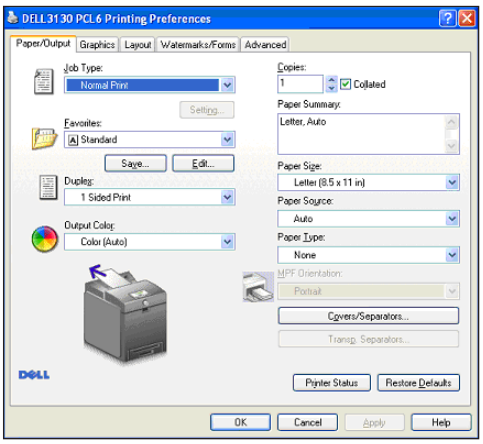
PRINT DRIVERS

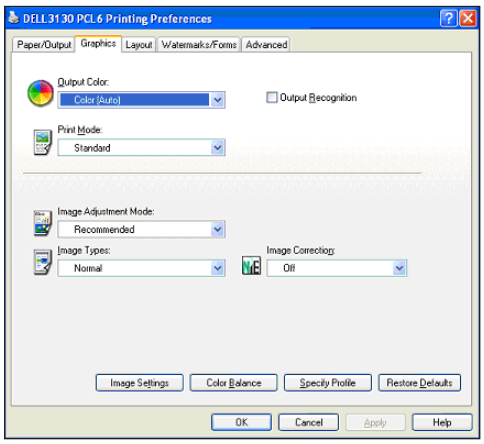
VERY GOOD

+ The 3130cn Colour Laser Printer ships with PCL 6 and Adobe PostScript 3 drivers for various Windows and Mac operating systems, as well as environments that run Linux or UNIX. The drivers, which were tested on a Windows XP platform, were well laid out and easy to use.

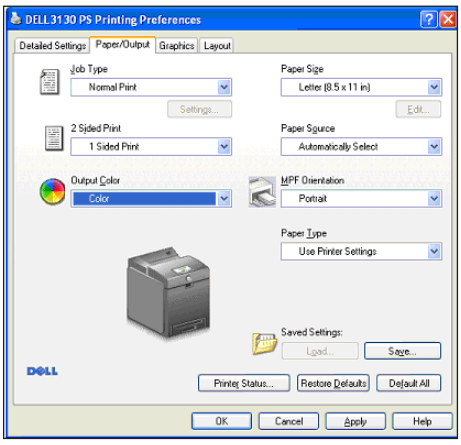
○ The PCL driver is graphical and provides most of the selections for a typical job on the main screen. So too is the Adobe PostScript 3 driver, which is atypical of this variety in that it's usually text-based. Still, the fact they're virtually identical helps boost ease of use in those environments that frequently switch between them.



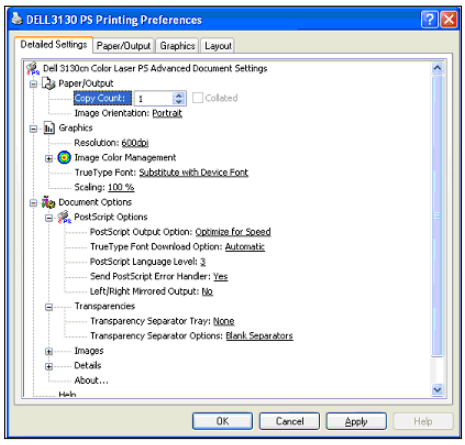
PCL 6 Print Driver—Paper/Output Tab (U.S. model pictured)



PCL 6 Print Driver—Graphics Tab (U.S. model pictured)



Adobe PostScript 3 Print Driver—Paper/Output Tab (U.S. model pictured)



Adobe PostScript 3 Print Driver—Detailed Settings Tab (U.S. model pictured)

○ The drivers, which have a good overall feature set compared to A4 colour laser/LED printers in this speed range and class, both include reduction and enlargement from 25 to 400 percent and the abilities to save settings for frequently used jobs. The PCL

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driver also has booklet, proof, N-up—1 to 32—and secure printing, quantity selection up to 999 and the ability to add watermarks, while the Adobe PostScript driver has mirror image, N-up—1 to 16—printing and quantity selection up to 9,999.

○ File size increased from one set printed using a 10-page document when producing multiple collated sets with collate selected from the print screen within the application, but the number of pages sent to the unit didn't increase. However, when collate is selected from the drivers, file size remains the same.

△ APPLICATIONS COMPATIBILITY — EXCELLENT

+ No problems were experienced with any of the test files used in the applications compatibility tests. Units are tested for compatibility on a Windows 2000 platform with Microsoft Word 2000, PowerPoint 2000 and Excel 2000, as well as Adobe PageMaker 7.0, Photoshop 6.0 and Acrobat 6.0, using 25 application test files that contain text, graphics, halftone images, tables, etc. that enable BLI technicians to evaluate memory usage, file processing, font rendering and greyscale capability.

△▽ PRINT QUALITY

Colour Print Quality — VERY GOOD

+ Business graphics were rated Very Good, with bright, well-saturated colours and above average consistency of solids, sharpness of fine details, production of pastel shades and background reproduction.

○ Photographic images were good overall, as sharpness of details was average, the unit produced an average range of shades and output exhibited an average amount of graininess, while flesh tones had a slightly yellowish hue.

○ The colour gamut increased over the course of testing. Though reds appeared slightly washed out at the conclusion of the evaluation and greens got darker and more brown, endpoint image quality samples were still fairly consistent with those produced at the start.

Black Print Quality — VERY GOOD

+ Text was rated Very Good, as darkness, sharpness and smoothness of curves and serifs were above average, and characters were fully formed. Line art was very good overall, as closely spaced fine lines remained distinct, consistency of line thickness was above average and diagonal lines displayed no evidence of stair-stepping, while circles had some breakup. Halftone pattern and range were rated Very Good and

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Excellent, respectively; greyscale was visible from the 2 to 99 percent dot-fill levels with distinct transitions between all levels, while coverage within levels exhibited some graininess but no banding. Solids were very good overall due to above average darkness and average consistency of coverage.

PRINT PRODUCTIVITY

Colour Print Productivity

VERY GOOD

+ The 3130cn Colour Laser Printer's productivity using the Adobe PostScript driver to print BLI's job stream, which replicates typical traffic in a multi-user environment, is above average compared to A4 colour laser/LED printers in this class tested to date. Productivity using the PCL driver is competitive.

○ The unit's productivity using the PCL driver to print multiple sets in simplex mode is competitive compared to A4 colour laser/LED printers in this speed range and class tested to date.

+ The 3130cn Colour Laser Printer's first-print times for the PowerPoint, TIFF and JPEG file used in testing are faster than average compared to A4 colour laser/LED printers in this class tested to date.

Black Print Productivity

VERY GOOD

+ The unit's productivity using the Adobe PostScript driver to print the job stream is above average compared to A4 colour laser/LED printers in this class tested to date. Productivity using the PCL driver is competitive.

○ The 3130cn Colour Laser Printer's productivity using the PCL driver to print multiple sets in simplex mode is competitive compared to A4 colour laser/LED printers in this speed range and class tested to date.

+ The unit's first-print times for the Word document and PDF file used in testing are faster than average compared to A4 colour laser/LED printers in this class tested to date.

+ The 3130cn Colour Laser Printer's first-print time out of energy-save mode is slightly faster than average compared to A4 colour laser/LED printers in this class tested to date.

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EASE OF USE

VERY GOOD

○ The control panel features a 60.3 mm x 9.5 mm, two-line, 32-character LCD. There are seven hard keys—Menu, Enter, Cancel and up, down, left and right arrows—and one LED—Ready.

Dell 3130cn Colour Laser Printer Control Panel (U.S. model pictured)

+ The unit is easy to use from the desktop via the well-laid-out drivers.

+ Adjusting drawers for different size media is straightforward. Although there's a spring-loaded ramp, it locks down to allow users to add paper. Users simply press down on the blue tab for the length guide and slide it accordingly; the tab doesn't have to be removed and reinserted. Furthermore, the side guides move in sync and can easily be adjusted for paper that's narrower in width. As with most devices in this class, users must confirm the paper size via the control panel.

+ Removing misfeeds from any of the four access locations is easy, but users aren't prompted or instructed how to clear them. The imaging drum isn't exposed and consumables don't have to be removed.

+ Replacing the print cartridges is clean and straightforward: users open the right-side door, unlock the cartridge that needs to be replaced and rotate the holder that houses the cartridge out, then slide the old one out and the new one in.

FEATURE SET

VERY GOOD

+ The 3130cn Colour Laser Printer's standard memory capacity of 256 MB is above average compared to A4 colour laser/LED printers in this speed range and class, while its maximum memory capacity of 1280 MB is the highest.

○ The unit's standard and maximum paper capacities of 400 and 900 sheets are competitive with the average for the group.

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○ The unit's bypass tray capacity of 250 sheets is competitive for the group.

+ The drawers and bypass support up to 215 gsm, which is above average and competitive paper handling ability, respectively, for the group.

○ The 3130cn Colour Laser Printer offers optional duplexing, as the majority of devices in the group do; others include it as standard while some don't offer it at all.

+ The unit has a toner-save mode in the drivers to extend the life of the print cartridges.

△ SECURITY FEATURES

NOT RATED

Administrator password length (characters)	10 alphanumeric
AUTHENTICATION	
Network user authentication	Yes (up to 20 servers)
Windows	Yes
Novell NetWare NDPS	Yes
LDAP authentication	No
802.1x wireless authentication	Yes
Kerberos protocol support	No
Authentication via department or user ID codes that are registered on the machine	Yes
Number of codes	INA
Restrict usage of colour	Yes
Restrict usage of other features	Yes
Authenticated printing	Yes
Common Criteria Certification	No
Control panel lock/disablement	Yes
Digital user signature	No
Encrypted PDF mode/encrypted scanning	No
Encrypted secure print	No
Hard drive encryption	No
Hard drive lock	No
Hard drive overwrite	No
Max number of overwrites after every job	N/A
Overwrite method	N/A
IP address filtering	Yes
IPsec	Yes
Job logs (e.g., activity monitoring, compliance auditing)	Yes
MAC address filtering	No
Password-protected mailboxes	No
Password-protected Web page	Yes
Port disablement	Yes
Removable hard drive	Yes
Secure print	Yes

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Secure Sockets Layer (SSL)	Yes
SNMPv3 support	Yes (optional)
Third-party security features	Not applicable
Transport layer security	Yes
Unauthorised copy prevention (secure watermark)	Standard
USB block	Standard

ENVIRONMENTAL FEATURES

NOT RATED

Specified capable of running 30% post-consumer recycled paper	Yes
Specified capable of running 50% post-consumer recycled paper	Yes
Specified capable of running 100% post-consumer recycled paper	Yes
Instant/Quick Fusing	No
Duplexing	Opt
Toner-save mode	Yes
Energy-save mode/modes	Yes
Eco-Label Certifications	
Germany Blue Angel	Yes
ENERGY STAR	Yes
WEEE Directive compliant	Yes
RoHS compliant	Yes
Recycled materials/parts used in the product	Yes
Product designed for recycling (easily disassembled, no binding agents)	Yes
Hardware remanufacturing program for this product	No
Toner cartridge recycling program for this product	Yes
Pre-paid label for return of toner cartridges/bottles for this unit	Yes
Toner recycling system	No
Ability to program features such as duplexing and auto shut-off over entire fleet	No
Polyvinyl Chloride used in any aspect of the product or its packaging	Yes
Recyclable packaging materials for the product	Yes
Recyclable packaging materials for its consumables	Yes
Packaging materials used: cardboard; form polystyrene; form polypropylene; polyethylene bag; polypropylene tape; polypropylene joint	
Tested energy consumption levels of the device (in watts):	
Power	460
Standby	95
During Printing	460
Emissions output from this device for the following substances (in mg/h):	
Ozone	3.0
Styrene	1.8
Benzene	< 0.05
TVOC	18
Dust	4.0
Other	N/A

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TONER YIELD

VERY GOOD

+ The 3130cn Colour Laser Printer's tested toner yields for all four colours are above average compared to A4 colour laser/LED printers in this speed range and class tested to date. Toner yield is based on the average of two print cartridges per colour.

+ Furthermore, all cartridges exceeded their rated yields: black by approximately 1,900 impressions, cyan by just over 1,400 impressions, magenta by almost 2,750 impressions and yellow by just over 1,200 impressions.

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SUPPORTING TEST DATA

Test Environment

The product has been tested in BLI's 929-square-metre test lab, in an environment monitored by a Honeywell Temp/RH chart recorder, which replicates typical office conditions.

Test Equipment

BLI's dedicated test network, consisting of Windows 2000 servers, Windows XP workstations, 10/100BaseTX network switches and CAT5 cabling.

Test Duration

Products are tested for two months, a portion of which consists of a durability test during which the product is run at half of its manufacturer-rated maximum monthly volume, with varying daily test volumes designed to replicate real-world use over an eight-hour workday. This variable schedule includes a mix of various-size documents, simplex and duplex modes, and a mix of short, moderate and long run lengths, and on/off cycles, throughout the day.

Tested Configuration

Dell 3130cn Colour Laser Printer base model.

Test Procedures

The test methods and procedures employed by BLI in its lab testing include BLI's proprietary procedures and industry-standard test procedures, which include a BLI-developed variation of ASTM's 1318-90 Test Method for Determination of Productivity using Electrostatic Copy Machines. In addition to a number of proprietary test documents, BLI uses an industry-standard KATUN test original for evaluating black image quality and test suites from Quality Logic to evaluate applications compatibility. In addition to a visual observation under a Graphiclite D5000 Standard Viewer, colour print quality is tested using a colour test target, which is read using the X-Rite Eye-One/iO Colour Spectrophotometer, and samples are analysed using the CIE XY Chromaticity Diagram. In addition, density of black and colour output is measured using an X-Rite 500 Series Densitometer. Georgia-Pacific Spectrum Multi-Use Paper is used in the tests, 10 percent of which is recycled paper containing 30 percent post-consumer content. Image quality is tested using Georgia-Pacific Printing Paper.

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RELIABILITY

PMs/Malfunctions	Service Required	Meter Count (Impressions)	Impressions Between Service
Meter Count (Beginning of Test)		0	
End of Test Period		35,000	
Total Misfeeds/Misfeed Rate	0/Not applicable		
Total Service Calls	0		

ADMINISTRATIVE UTILITIES

Included Software:

Dell OpenManage Printer Manager allows administrators to remotely manage multiple Dell and compatible devices on the network via a Web browser. Though the fleet management utility provides great detail about Dell devices, its capabilities in terms of compatibles is more limited than with other competitive tools. OpenManage Printer Manager is available as a download on the company's Web site.

Status Monitor Console (SMC) is either resident or activated manually, displaying information for devices that have bi-directional support enabled. Administrators and users can proactively check SMC for status, names of print jobs, level of toner supply, guidance for reordering toner when necessary and the user's manual for troubleshooting details.

SMC is installed simultaneously with the driver and allows for pop-up messages or icon alerts, which notify users of errors and warnings, to be configured. When a job is sent, the utility pops up so that users can see paper status—"Okay" or "Add Paper"—and remaining toner, as indicated in percent gauges. Users can enable the pop-ups to appear during printing or disable the functionality altogether. It can also be proactively accessed.

The Printer Settings Report tab includes the Printer Information, Menu Settings, Reports, Network Settings, and TCP/IP Settings pages. The Printer Information page displays device information including the service tag number, printer serial number, printer type (colour or monochrome), asset tag number, memory capacity, processor speed, firmware version and print speed. The Menu Settings Page provides information on System Settings (time before the unit goes into power-saver mode; whether audible alerts are turned on for errors, print job completion or when the device is out of paper or toner; control panel language; and tray substitution for when the required paper size is not available); Paper Density (plain paper or labels); Auto Registration Adjustment; Altitude Adjustment; Non-Dell Toner; and Tray Settings (displays settings for paper size and type for each tray—including custom sizes—and whether a pop-up menu to set the paper size and type when paper is loaded is displayed at the control panel). The Reports page allows printing of printer settings, control panel settings, job history list, error history, and meter count, as well as a test page. TCP/IP Settings displays the IP Address, Subnet Mask and Gateway

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Address. The Printer Maintenance Tab allows users to change configuration settings for all of the settings displayed on the Menu Settings page.

Embedded Web page:

The embedded Web page, Dell Web Printer Configuration Tool, lets administrators configure the unit remotely on the network and monitor paper status—"Okay" or "Add Paper"—and remaining toner, as indicated in percent gauges. Dell ColourTrack 2, a colour management system that's included in the embedded Web page, enables administrators to control users or departments by allowing or restricting colour output, setting volume limitations and tracking usage.

Consumables monitoring:

Yes, via SMC or the embedded Web page.

PRINT DRIVERS

Dell 3130cn Colour Laser Printer Print Driver Features

Features	PCL 6	Adobe PostScript 3
Auto Feature/Device Detection	Yes	Yes
Booklet Printing	Yes	No
Collate Sets	Yes	Yes
Max Paper Sources per Job	2	2
Mirror Image	No	Yes
Negative Image	No	No
N-up Printing	1 to 32	1 to 16
Overlays	No	No
Paper Gauge	No	No
Print and Hold	No	No
Proof Print	Yes	No
Quantity Selection	1 to 999	1 to 9,999
Reduction/Enlargement	Auto; 25% to 400%	Auto; 25% to 400%
Resolution Modes (dpi)	200, 300 and 600	600
Save Settings	Yes	Yes
Secure Print	Yes	No
Watermarks/Custom Watermarks	Yes/Yes	No/No
Toner Save	Yes	Yes
Margin Shift	Yes	Yes
Image Correction	Yes	Yes
Skip Blank Pages	Yes	Yes
Separator Pages	Yes	Yes
Cover Mode	Yes	Yes

Send once/print many:

File size sent to the unit from the PC increased when printing multiple collated sets with collate selected from the print screen within the application. However, file size remained the same when collate is selected from the drivers.

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PRINT QUALITY

Text	Very Good
Line Art	Very Good
Halftone Pattern	Very Good
Halftone Range	Excellent
Solids	Very Good
Colour Business Graphics	Very Good
Colour Photographic Images	Good
Colour Shift	Good

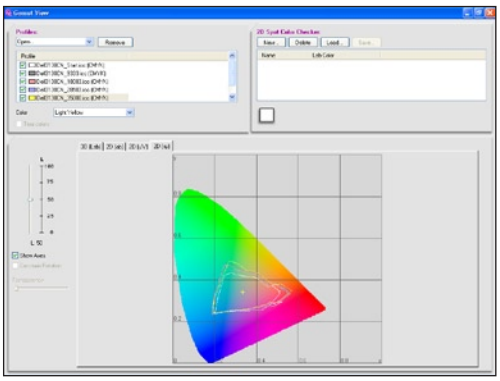
Comments:

Colour print quality is tested using a colour test target with print samples taken at five evenly spaced intervals throughout the test period. Test targets are read using an X-Rite Eye-One/iO Colour Spectrophotometer and samples are analysed using the CIE XY Chromaticity Diagram. The 3130cn Colour Laser Printer employs an internal calibration process.

Colour Shift Readings

Test Point	Delta E	BLI Rating
9,333	7.13	Fair
18,083	6.44	Good
28,583	5.81	Good
35,000	8.42	Fair

Based on spectrophotometric readings of a 378-colour patch test target. Note that a Delta E of 4 is generally considered the point at which average users will notice differences in colour output.



Dell 3130cn Colour Laser Printer Colour Gamut (U.S. model pictured)

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Colour Density Readings

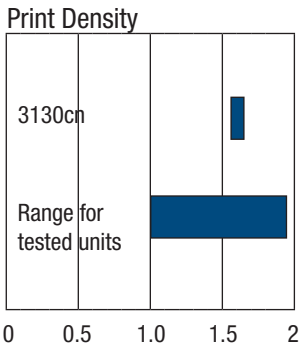
Colour	Cyan	Magenta	Yellow
Print Density	0.89	1.21	0.79

Density of a printed image with blocks of all solid colours (based on the average of two readings for each colour).

Print Density

Dell 3130cn Colour Laser Printer	1.56 to 1.65
Density for units in this class tested to date	1.00 to 1.94

Measurements are based on four readings corresponding to four different solid black locations on the output. The higher the density reading, the darker the image.



Halftone Range

	Visible halftone range
Dell 3130cn Colour Laser Printer	2% to 99%
Typical range for competitive units	4% to 94%

The halftone test target contains blocks of increasing halftone dot-fill levels (1% to 100% in 1% increments).

PRINT PRODUCTIVITY

First-Print Time from Energy-Save Mode (Seconds)

Dell 3130cn Colour Laser Printer	32.18
Average for units in this class tested to date	37.53

Device sits idle overnight; a single-page black Word document is sent to the device; first-print time indicates the time it took to RIP, image and deliver the first page of the test document to the output tray.

First-Print Times (Seconds)

Windows XP	Word	PowerPoint	Photoshop	Acrobat	Photoshop
File Type	Black Text	Colour Graphic/Text	Colour Graphic	Black Graphic/Text	Colour Graphic
File Extension	DOC	PPT	TIF	PDF	JPG
Pre-Raster File Size	114 KB	99 KB	20 MB	426 KB	245 KB
Post-Raster File Size	14.8 KB	53.5 KB	3.60 MB	548 KB	810 KB
First-Page Time	13.22	13.56	12.12	12.34	12.22

First-print time indicates the time it took to RIP, image and deliver the first page of the test document set to the output tray. The unit's print speeds were tested at the default 600 dpi using the PCL driver.

Dell 3130cn Colour Laser Printer's rated speeds:
25 ppm for colour; 30 ppm for black.

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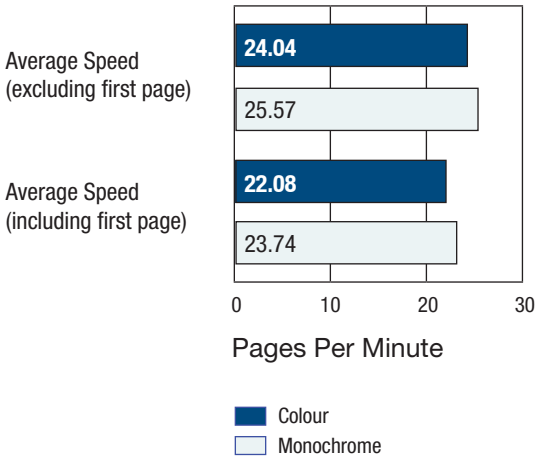
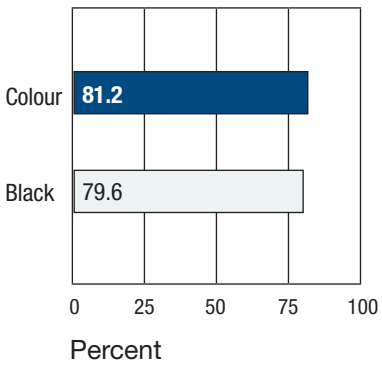
BLI's Tested Print Speeds



Print speed is tested using BLI's Monochrome Test Original with 6% page coverage and BLI's Colour Test Original with 10% coverage for each colour (cyan, magenta, yellow and black). The test page is printed in a quantity equal to double the vendor's rated print speed for the device in each mode tested (e.g., if the vendor's rated print speed is 20 ppm, 40 pages are printed). The unit's print speeds were tested at the default 600 dpi using the PCL driver.

Overall Efficiency



BLI obtains the overall efficiency percentage by dividing the tested speed of the device by the rated speed and then multiplying by 100 for each run length. All jobs are based on a 10-page document printed at the default 600 dpi using the PCL driver.

Colour Print Efficiency for Multiple Sets

Sets	Time	PPM	Efficiency	Overall Efficiency
PRINT 1:1				
1	0:32.50	18.5	61.5%	61.5%
5	2:1.97	24.6	82.0%	71.8%
10	3:50.79	26	86.7%	76.7%
20	7:34.37	26.4	88.0%	79.6%

Efficiency is tested using a 10-page colour document, with the unit in full-colour mode. In print mode, the document is printed at the default 600 dpi using the PCL driver.

Black Print Efficiency for Multiple Sets

Sets	Time	PPM	Efficiency	Overall Efficiency
PRINT 1:1				
1	0:37.25	16.1	64.4%	64.4%
5	2:21.28	21.2	84.9%	74.7%
10	4:34.25	21.9	87.5%	78.9%
20	9:4.78	22	88.1%	81.2%

Efficiency is tested using a 10-page document in black mode. In print mode, the document is printed at the default 600 dpi using the PCL driver.

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Job Stream

BLI's job stream includes Word documents, Outlook e-mail messages, Excel spreadsheets, PowerPoint, HTML and Acrobat PDF files, totalling 19 pages. This test simulates the type of traffic a typical device might experience in a real-world, multi-user environment. All of the files are sent to the printer as a group, at which time the stopwatch begins; timing ends when the last page of the last file exits the device. Job stream efficiency is determined by the percentage of the rated speed at which the unit operates when producing real-world jobs. The closer the rate is to 100%, or if it exceeds 100%, the more efficient the unit.

Job Stream in Black Mode:

The unit completed the job stream using the PostScript driver in 47.41 seconds, running at 24.0 ppm, which translates to an efficiency rate of 77.6%.

The unit completed the job stream using the PCL driver in 47.88 seconds, running at 23.8 ppm, which translates to an efficiency rate of 79.4%.

Job Stream in Full-Colour Mode:

The unit completed the job stream using the PostScript driver in 1 minutes 1.18 seconds, running at 18.6 ppm, which translates to an efficiency rate of 71.7%.

The unit completed the job stream using the PCL driver in 1 minute, 0.53 seconds, running at 18.8 ppm, which translates to an efficiency rate of 75.3%.

Problems encountered:

None

TONER YIELD

Tested Toner Yield

Colour	Rated Toner Yield (Impressions)	Tested Toner Yield (Impressions)	Net Weight (Grams)	Impressions per Gram
Black	9,000	10,898	122.70	88.82
Cyan	9,000	10,412	122.70	84.86
Magenta	9,000	11,744	125.15	93.84
Yellow	9,000	10,220	104.55	97.75

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Certificate of Reliability

Awarded to

DELL INC.

for the performance of the

Dell 3130cn Colour Laser Printer

in BLI's in-house durability test.

Anthony F. Polifrone
Managing Director

January 2009
Date

This is to certify that when subjected to a 35,000-impression Buyers Lab durability test in a networked environment, the Dell 3130cn Colour Laser Printer proved to be a highly reliable product.

BUYERS LABORATORY INC.

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